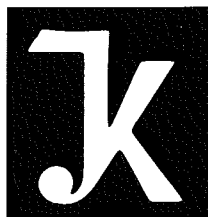


IKA LABORTECHNIK

Betriebsanleitung ● operating instructions ● Mode d'emploi

IKA HS 501 digital IKA KS 501 digital

Inhaltsübersicht	Seite	Table of Contents	Page	Sommaire	Page
Ersatzteilbild	2	Spare parts diagram	2	Plan des pièces de rechange	2
Verdrahtungsplan	2	Wiring diagram	2	Schéma des connexions	2
Ersatzteilliste	3	List of spare parts	3	Liste des pièces de rechange	3
Bestimmungsgemäßer Gebrauch	4	Scheduled use	8	Condition d'utilisation	12
Auspacken	4	Unpacking	8	Déballage	12
Aufstellen des Gerätes	4	Setting-up the instrument	8	Installation de l'appareil	12
Inbetriebnahme	4	Starting-up	8	Mise en service	12
Aufsätze	4/5/6	Attachments	8/9/10	Les supports	12/13/14
Wartung und Reinigung	7	Maintenance and cleaning	11	Entretien et nettoyage	15
Technische Daten	7	Technical data	11	Données techniques	15
Garantie	16	Guarantee	16	Garantie	16



IKA®-WERKE GMBH & CO. KG
Janke & Kunkel-Str. 10, D-79219 Staufen
Tel. (07633) 831-0, Fax (07633) 831-98
eMail: sales@IKA.de
Internet: <http://www.ika.net>

● Scheduled Use

By using different attachments, the IKA-shakers HS 501 digital and KS 501 digital are suitable for mixing liquids in bottles, flasks, separating funnels, test tubes and dishes with a maximum shaking weight of 15 kg.

The HS 501 digital produces a to and fro shaking motion and the KS 501 digital an orbital one.

● Unpacking

Please unpack the instrument carefully and look out for any damage. It is important to recognize a transportation damage already when unpacking. If this is the case, an immediate factual report is required (mail, rail or forwarding agency).

● Setting-up the Instrument

Please take care for the instrument to stand unobstructed. Attention has to be paid to the ambient conditions (temperature and humidity) listed in Technical Data. Any direct exposure to the sun should be avoided.

Safety Warning:

The instrument has to be placed upon a sturdy laboratory table with level surface and with no other objects on it.

The instrument must not be operated in rooms with explosion hazards.

● Starting-up

Before starting the instrument, please check the conformity between the voltage indicated on the ID-plate and your mains voltage. If they do not agree, the instrument must not be operated. The instrument has to be connected to an earthed socket.

The shaking intensity is selected on the front side potentiometer "Mot".

Attention:

As the instrument is starting with the set speed, we recommend to set the potentiometer "Mot" to the left-hand stop (minimum speed) before starting it.

The instrument is switched on by turning the timer rotary knob clockwise. Position **I** is for permanent operation. The duration of operation can be set infinitely variably from 0 – 56 minutes. The timer rotary knob can be reset any time, yet it may not exceed position **0**.

By turning the timer rotary knob to position **0**, the **instrument is switched off**.

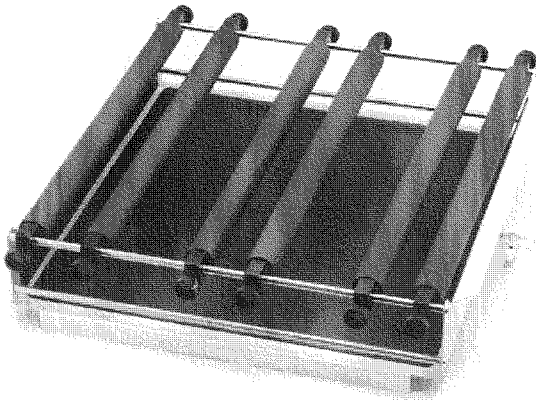
● Attachments

Attention:

In shaking operations additional dynamic forces occur, and the instrument might start traveling on the table if the centre of gravity is unfavourably placed or if the bearing weight is too high. Single shaking vessels have to be placed into the centre, and several shaking vessels should be uniformly placed. Load limitations in the event of high shaking frequencies can be taken from the following diagrams.

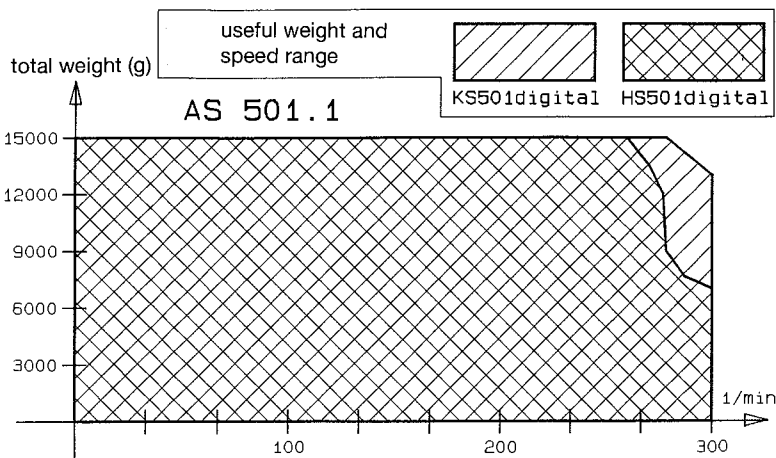
Universal Attachment AS 501.1

consisting of:



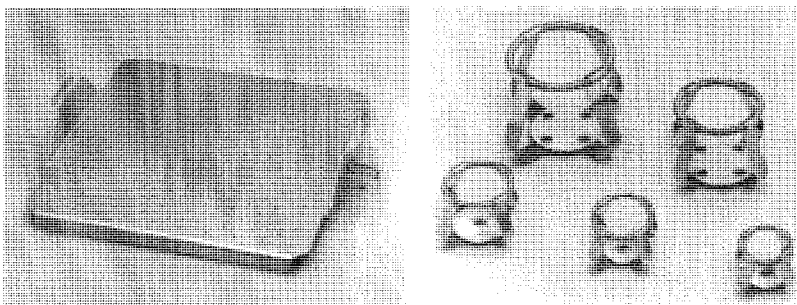
- 1 basic holder AS 1.10
- 6 supporting bars AS 1.11
- 12 clamping devices AS 1.6

The basic holder is placed upon the shaking table and fastened with the lateral quick-action vises.



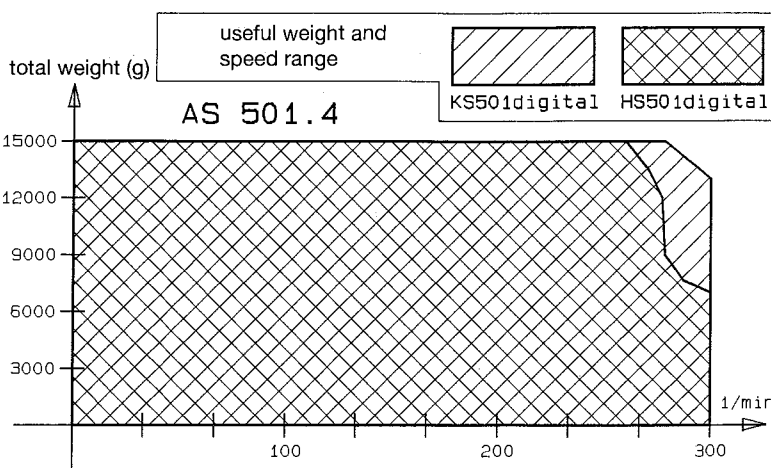
Fixing Clip Support AS 501.4

The support can hold:



recom./max.*

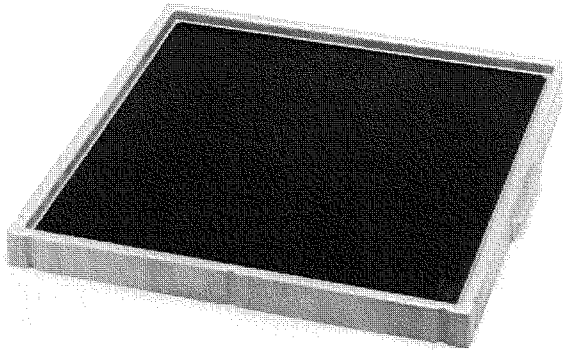
- 55/55 fixing clips AS 2.1
for 25 ml flasks or
- 35/55 fixing clips AS 2.2
for 50 ml flasks or
- 25/36 fixing clips AS 2.3
for 100 ml flasks or
- 12/21 fixing clips AS 2.4
for 200/250 ml
flasks or
- 12/12 fixing clips AS 2.5
for 500 ml flasks.



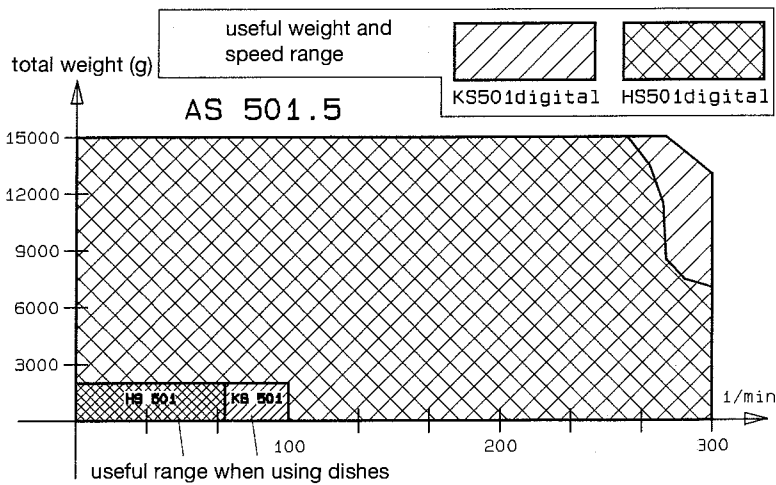
*Attention: In case of max. assembly overhang of glass ware is possible. Danger of broken glass.

The plate which can be equipped with clips of different size, is placed on the shaking table and fastened with the lateral quick-action vises.

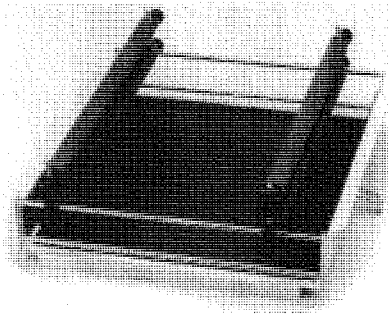
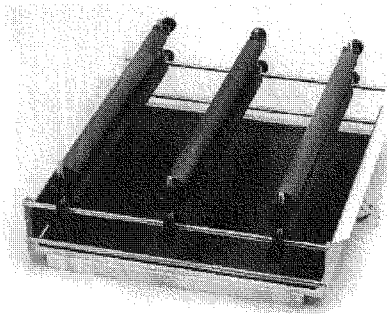
Dish Attachment AS 501.5



The dish attachment made of the environmentally friendly polystyrene, is simply slipped on the shaking table and pulled up for removal.



Separating Funnel Attachments AS 501.2 and AS 501.3

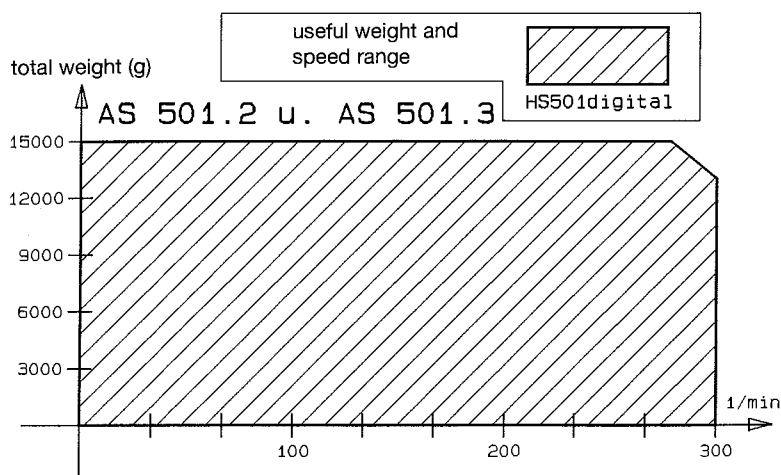


AS 501.2 for

12 x	50 ml
10 x	100 ml
6 x	250 ml

AS 501.3 for

4 x	500 ml
3 x	1000 ml
2 x	2000 ml



The attachments are placed on the shaking table and fastened with the lateral quick-action vises.

Separating funnel attachments are only suitable for HS 501 digital.

● Maintenance and Cleaning

The instrument requires no maintenance. Only the ball bearings are subjected to a natural wear. If the instrument needs to be repaired, it may only be opened by a qualified technician. If the instrument does not seem to function, please check the fuses first: Disconnect mains plug of instrument and open fuse holder. For safety data see Technical Data/Mains Connection.

The surfaces of the instrument may be cleaned with:

- a) water with a tenside containing detergent
- b) isopropyl alcohol (e.g. if very soiled) with the exception of the polystyrene attachments.

Please submit for repair only instruments that have been cleaned and are free from substances dangerous to health.

When ordering spare parts, please indicate type of instrument, serial number and ordering number of the spare part.

● Technical Data

Mains voltage		230 V or 115 V
mains frequency		50/60 Hz
mains connection		CEE-instrument plug with fuses: 230 V = 2 x 0,5 A; 115 V = 2 x 1 A
protection class (DIN 40 050)		IP 21
permissible duration of operation		100%
timer		0 – 56 min/∞
power input		70 watts
power output		19 watts
speed		0 – 300 1/min
speed display		digital
shaking motion	HS 501	to and fro
	KS 501	orbital
max. load incl. attachment		15 kg
permissible ambient temperature		+5°C – +50°C
relative humidity		max. 80%
dimensions W x D x H		505 x 585 x 120 mm
weight (without attachment)		24 kg